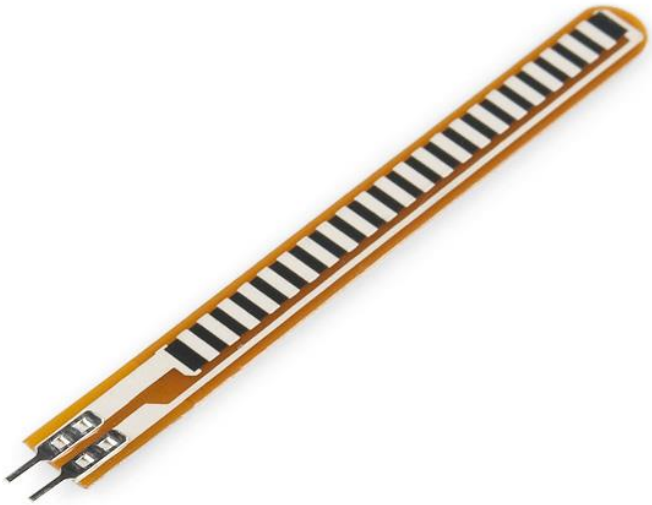
VERSION 1.0



Flex Sensor 2.2 inch

INTRODUCTION

The Basic Flex Sensor Circuit is a single sided operational amplifier, used with these sensors because the low bias current of the op amp reduces error due to source impedance of the flex sensor as voltage divider. Flex also called bend sensors, measure the amount of deflection caused by bending the sensor.

A typical bend sensor has the following basic specifications:

- uni- vs. bi-directional sensing
- uni- vs. bi-polar sensing
- range of resistance (nominal to full-deflection)

Range of deflection: Determines the maximum angle of deflection that can be measured (as opposed to the maximum angle the sensor can be bent).

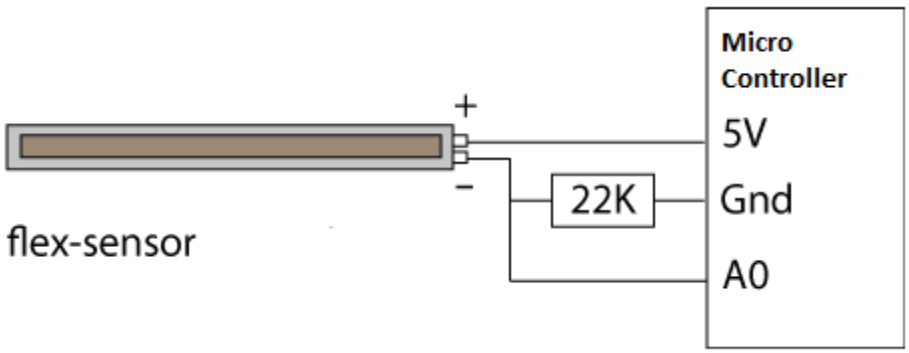
Uni- vs. bi-directional sensing: Some flexion sensors increase the resistance when bent in either of two opposing directions, however there is no difference in the measurement with respect to the direction.

Uni- vs. bi-polar sensing: A bi-polar flexion sensor measures deflection in two opposing directions yielding different measurements

Range of resistance: Bend sensors can vary largely (even the same product) in terms of their range of resistance, measured as the difference from nominal resistance to resistance at full deflection.

PIN CONFIGURATION

1. VDD : 3.3V-5.5V power supply.
2. GND: Power Ground.
3. A0 : MCU.IO (analog output).



FEATURES

- Angle Displacement Measurement
- Bends and Flexes physically with motion device
- Robotics
- Gaming (Virtual Motion)
- Medical Devices
- Computer Peripherals
- Musical Instruments
- Physical Therapy
- Simple Construction
- Low Profile

SPECIFICATION:

- -Flat Resistance: 10K Ohms
- -Resistance Tolerance: ±30%
- -Bend Resistance Range: 60K to 110K Ohms
- -Power Rating: 0.50 Watts continuous. 1 Watt Peak

ADVANTAGES:

- Very Sensitive
- Very efficient and accuracy

APPLICATION

- Gesture
- Robotics

DEVICE IMAGE



FLEX SENSOR 2.2 INCH